



Potlatch Forest Products Corporation  
Idaho Pulp & Paperboard Division  
P.O. Box 1126  
Lewiston, Idaho 83501

CERTIFIED MAIL: 7005 1160 0001 0683 0924

April 6, 2007

Mr. Dan Pitman  
Air Quality Permit Coordinator  
Idaho Department of Environmental Quality  
1410 North Hilton  
Boise, Idaho 83706-1255

RECEIVED

APR 11 2007

DEPARTMENT OF ENVIRONMENTAL QUALITY  
www.deq.idaho.gov

**Re: Facility ID No. 069-00001, Potlatch Corporation, Lewiston, Idaho  
Request Permit to Construct (PTC) Modification O2 delignification system**

Dear Mr. Pitman:

Potlatch Forest Products Corporation owns and operates the Idaho Pulp and Paperboard Division in Lewiston, Idaho. Potlatch is requesting IDEQ to revise a PTC issued on September 16, 1996 for the Oxygen Delignification System to reflect current applicable requirements.

According to our files the original permitting for this source took place in 1990. Revised permits were issued in 1994 and 1996.

The original permit contain short term and long term emission limits for VOC and CO. Compliance was to be determined through the use of CEMs subject to the requirements of 40 CFR Appendix F. The 1996 permit removed the VOC limits and monitoring requirements.

The oxygen delignification system was among the earliest of such systems installed on pulp mills in the U.S. The purpose of the installation was to reduce the formation of chlorinated organics during the bleaching process. In 1990, little data was available on the CO emissions associated with oxygen delignification. The CEMs systems for O<sub>2</sub>, CO and VOC were originally installed to monitor the LEL (lower explosive limit) of the reactor gases for safety purposes.

Now that data has been collected on the CO emissions from this system for over 15 years, adequate information exists to modify the permit and remove the limits and monitoring requirements. The potential to emit for CO is well under the PSD trigger of 100 tons per year

Enclosed please find two (2) copies of Potlatch Corporation's Permit to Construct (PTC) application for the O<sub>2</sub> delignification system. The application is in the form of a draft permit and regulatory review. Please refer to the semi-annual Tier I compliance certification submitted in January of 2006 for compliance status. A permit application fee of \$1,000 is enclosed as required by IDAP 58.01.01.224.

Potlatch request that the PTC provisions for the Oxygen delignification system project be incorporated into the operating permit in accordance with the administrative permit amendment procedures in IDAPA 58.01.01.381.901.e referring to IDAPA 58.01.01.209.05.c.

In accordance with IDAPA 58.01.01.123 (*Rules for the Control of Air Pollution in Idaho*), I, Frank Radle, certify based on the information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and completed.

Please contact Sue Somers at (208) 799-4104 with any questions regarding this PTC application.

Respectfully,

A handwritten signature in dark ink, appearing to read "J. Frank Radle". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

J. Frank Radle  
IPP Mill Manager



**DEQ AIR QUALITY PROGRAM**  
 1410 N. Hilton, Boise, ID 83706  
 For assistance, call the  
**Air Permit Hotline – 1-877-5PERMIT**

# PERMIT TO CONSTRUCT APPLICATION

Revision 2  
 02/13/07

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Pollatch Forest Products Corporation		
2. Facility Name	Pulp and Paperboard	3. Facility ID No.	069-00001
4. Brief Project Description - One sentence or less	Modify 1996 Oxygen Delignification system PTC		
PERMIT APPLICATION TYPE			
5. <input type="checkbox"/> New Facility <input type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Unpermitted Existing Source <input checked="" type="checkbox"/> Modify Existing Source: Permit No.: <u>069-00001</u> Date Issued: <u>09/16/96</u> <input type="checkbox"/> Required by Enforcement Action: Case No.: _____			
6. <input type="checkbox"/> Minor PTC <input type="checkbox"/> Major PTC			
FORMS INCLUDED			
Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU5 – Boiler Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form BCE - Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE - Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PP – Plot Plan	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>

DEQ USE ONLY
<b>Date Received</b> <p style="text-align: center; color: blue; font-size: 1.2em;">RECEIVED</p> <p style="text-align: center; color: blue; font-size: 1.2em;">APR 11 2007</p> <p style="text-align: center; font-size: 0.8em;">DEPARTMENT OF ENVIRONMENTAL QUALITY                      1410 N. HILTON BOISE, IDAHO 83706</p>
<b>Project Number</b>
<b>Payment / Fees Included?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <p style="text-align: center; color: blue; font-size: 1.2em;">1,000.00</p>
<b>Check Number</b> <p style="text-align: center; color: blue; font-size: 1.2em;">816874</p>



DEQ AIR QUALITY PROGRAM  
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 Air Permit Hotline – 1-877-5PERMIT

# PERMIT TO CONSTRUCT APPLICATION

Revision 2  
 02/13/07

Please see instructions on page 2 before filling out the form.

**All information is required. If information is missing, the application will not be processed.**

IDENTIFICATION	
1. Company Name	Potlatch Forest Products Corporation
2. Facility Name (if different than #1)	Potlatch Forest Products Corporation
3. Facility I.D. No.	069-00001 - project descrip - modify 1996 O2 delignification system permit
4. Brief Project Description:	
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	<input type="checkbox"/> Federal government <input type="checkbox"/> County government <input type="checkbox"/> State government <input type="checkbox"/> City government
6. Primary Facility Permit Contact Person/Title	Sue Somers
7. Telephone Number and Email Address	208-799-4101 Sue.somers@potlatchcorp.com
8. Alternate Facility Contact Person/Title	Steve Waldher
9. Telephone Number and Email Address	208-799-8861
10. Address to which permit should be sent	PO box 1126,
11. City/State/Zip	Lewiston ID 83501
12. Equipment Location Address (if different than #9)	803 Mill Road
13. City/State/Zip	Lewiston ID 83501
14. Is the Equipment Portable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15. SIC Code(s) and NAISC Code	Primary SIC: 2631                      Secondary SIC (if any):                      NAICS:
16. Brief Business Description and Principal Product	Pulp and Paperboard Manufacturing
17. Identify any adjacent or contiguous facility that this company owns and/or operates	Consumer products division, Clearwater Wood Products
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	<input type="checkbox"/> New Facility <input type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Modify Existing Source: Permit No.: _____ Date Issued: _____ <input type="checkbox"/> Unpermitted Existing Source: <input type="checkbox"/> Required by Enforcement Action: Case No.: _____
CERTIFICATION	
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	Frank Radle
20. RESPONSIBLE OFFICIAL SIGNATURE	Date: 4-6-07
21. <input checked="" type="checkbox"/> Check here to indicate you would like to review a draft permit prior to final issuance.	



DEQ AIR QUALITY PROGRAM  
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Air Permit Hotline – 1-877-5PERMIT

# PERMIT TO CONSTRUCT APPLICATION

Revision 2  
02/14/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
Company Name: Potlatch Forest Products Corporation		Facility Name: Idaho Pulp and Paperboard			Facility ID No: 069-00001	
Brief Project Description:		Modify 1996 Oxygen Delignification system PTC				
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
1. Emissions Unit (EU) Name:	O2 REACTOR					
2. EU ID Number:	766					
3. EU Type:	<input type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input checked="" type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:				Date Issued:	
4. Manufacturer:	KAMYR					
5. Model:	CUSTOM					
6. Maximum Capacity:	ESTIMATE 1350 AIR DRY TONS BLEACHED PULP PER DAY					
7. Date of Construction:	1992					
8. Date of Modification (if any)	NONE					
9. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes    If Yes, Complete the following section. If No, go to line 18.					
EMISSIONS CONTROL EQUIPMENT						
10. Control Equipment Name and ID:	none					
11. Date of Installation:	none	12. Date of Modification (if any):	none			
13. Manufacturer and Model Number:	none					
14. ID(s) of Emission Unit Controlled:	none					
15. Is operating schedule different than emission units(s) involved?:	<input type="checkbox"/> Yes <input type="checkbox"/> No					
16. Does the manufacturer guarantee the control efficiency of the control equipment?:	<input type="checkbox"/> Yes <input type="checkbox"/> No    (If yes, attach and label manufacturer guarantee)					
	Pollutant Controlled					
	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Control Efficiency	0	0	0	0	0	0
17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.    na						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
18. Actual Operation	8568 HOURS PER YEAR (ONE WEEK DOWN)					
19. Maximum Operation	8760 HOURS PER YEAR					
REQUESTED LIMITS						
20. Are you requesting any permit limits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    (If Yes, check all that apply below)					
<input type="checkbox"/> Operation Hour Limit(s):	NA					
<input type="checkbox"/> Production Limit(s):	NA					
<input type="checkbox"/> Material Usage Limit(s):	NA					
<input type="checkbox"/> Limits Based on Stack Testing	Please attach all relevant stack testing summary reports					
<input type="checkbox"/> Other:	NA					
21. Rationale for Requesting the Limit(s):	NA					



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# PERMIT TO CONSTRUCT APPLICATION

Revision 2  
 02/14/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: Potlatch Forest Products Corporation	Facility Name: Idaho Pulp and Paperboard	Facility ID No: 069-00001
Brief Project Description: Modify 1996 Oxygen Delignification system PTC		
APPLICABILITY DETERMINATION		
1. Will this project be subject to 1990 CAA Section 112(g)? (Case-by-Case MACT)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>* If YES then applicant must submit an application for a case-by-case MACT determination [IAC 567 22-1(3)"b" (8)]</small>
2. Will this project be subject to a New Source Performance Standard? (40 CFR part 60)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please identify sub-part: _____</small>
3. Will this project be subject to a MACT ( <u>M</u> aximum <u>A</u> chievable <u>C</u> ontrol <u>T</u> echnology) regulation? (40 CFR part 63)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please identify sub-part: _____</small>
THIS ONLY APPLIES IF THE PROJECT EMITS A HAZARDOUS AIR POLLUTANT		
4. Will this project be subject to a NESHAP ( <u>N</u> ational <u>E</u> mission <u>S</u> tandards for <u>H</u> azardous <u>A</u> ir <u>P</u> ollutants) regulation? (40 CFR part 61)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please identify sub-part: _____</small>
5. Will this project be subject to PSD ( <u>P</u> revention of <u>S</u> ignificant <u>D</u> eterioration)? (40 CFR section 52.21)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6. Was netting done for this project to avoid PSD?	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please attach netting calculations</small>
<b>IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT</b>		



**Air Quality  
PERMIT TO CONSTRUCT**

State of Idaho  
Department of Environmental Quality

PERMIT No.: P-050208

FACILITY ID No.: 069-00001

AQCR: 062

CLASS: A

SIC: 2812

ZONE: 11

UTM COORDINATE (km): 501.9, 5141.3

**1. PERMITTEE**

Potlatch Forest Products Corporation, Pulp and Paperboard Division

**2. PROJECT**

Oxegen Delignification system

**3. MAILING ADDRESS**

P.O. Box 1126

**CITY**

Lewiston

**STATE**

ID

**ZIP**

83501-1126

**4. FACILITY CONTACT**

Sue Somers

**TITLE**

Environmental Engineering Manger

**TELEPHONE**

(208) 799-4104

**5. RESPONSIBLE OFFICIAL**

Frank Radle

**TITLE**

Plant Manager

**TELEPHONE**

(208) 799-1561

**6. EXACT PLANT LOCATION**

803 Mill Road, Lewiston, Idaho

**COUNTY**

Nez Perce

**7. GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**

Pulp and paperboard manufacturing

**8. GENERAL CONDITIONS**

This permit is issued according to IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require DEQ approval pursuant to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200, et seq.

TONI HARDESTY, DIRECTOR  
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE ISSUED: Proposed

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## Acronyms, Units, and Chemical Nomenclature

AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gr	grain (1 lb = 7,000 grains)
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
MMBtu/hr	million British thermal units per hour
MMscf	million standard cubic feet
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
psig	pounds per square inch
PTC	permit to construct
SIC	Standard Industrial Classification
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

**1. PERMIT TO CONSTRUCT SCOPE**

***Purpose***

The purpose of this permit to construct (PTC) is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho for Oxygen Delignification System.

***Regulated Sources***

1.2 Table 1.1 lists all sources of regulated emissions in this PTC.

**Table 1.1 SUMMARY OF REGULATED SOURCES**

<b>Permit Section</b>	<b>Source Description</b>	<b>Emissions Control(s)</b>
2	Oxygen Delignification System.	none

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

**2. Oxygen Delignification System.**

**2.1 Process Description**

Oxygen delignification is a process that applies oxygen to brownstock. It is used to reduce the lignin content of the pulp.

**2.2 Emissions Control Description**

**Table 1.2 EMISSIONS UNIT DESCRIPTIONS**

<b>Emissions Unit(s) / Process(es)</b>	<b>Emissions Control Device</b>
Oxygen Delignification system	none

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

**PERMIT TO CONSTRUCT GENERAL PROVISIONS**

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.
2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
3. The permittee shall allow the Director, and/or the authorized representative(s), upon the presentation of credentials:
  - To enter, at reasonable times, upon the premises where an emissions source is located, or in which any records are required to be kept under the terms and conditions of this permit.
  - At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack compliance testing in conformance with IDAPA 58.01.01.157 when deemed appropriate by the Director.
4. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
5. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

7. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
  
8. In accordance with IDAPA 58.01.01.123, all documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

O2 delignification system  
Regulatory review  
04/06/2007

This PTC regulates emissions from the Oxygen delignification system. Oxygen delignification is a process that applies oxygen to brownstock. It is used to reduce the lignin content of the pulp.

The original permit contain short term and long term emission limits for VOC and CO. Compliance was to be determined through the use of CERMs subject to the requirements of 40 CFR Appendix F. The 1996 permit removed the VOC limits and monitoring requirements.

The oxygen delignification system was among the earliest of such systems installed on pulp mills in the U.S. The purpose of the installation was to reduce the formation of chlorinated organics during the bleaching process. In 1990, little data was available on the CO emissions associated with oxygen delignification. The CEMs systems for O2, CO and VOC were originally installed to monitor the LEL (lower explosive limit) of the reactor gases for safety purposes.

CO delignification is one step in the process of producing bleached pulp. There are three basic steps in the process which are designed to remove lignin but maintain the strength of the wood fiber. The first step is the digesters which break down the chip and removes some of the lignin. This is the most rigorous stage of the process. After the pulp, known as "brownstock" at this point, is washed, it enters the O2 delignification system. The kappa no. at this point is about 30. Kappa no. is a measure of pulp brightness. In the O2 system, oxygen is used to further remove lignin from the pulp. This stage is less harsh on the fiber than the digester stage, however fiber strength can still be compromised in the O2 reactor. For this reason the target kappa no. out of the reactor is about 15. If too much delignification takes place in the O2 stage, the resulting pulp will be poor quality. After O2 delignification the pulp is washed and enters the "bleach plant" where Chlorine dioxide and other chemicals that are gentle on the fibers are used to obtain the final brightness.

Now that data has been collected on the CO emissions from this system for over 15 years, adequate information exists to modify the permit and remove the limits and monitoring requirements. The potential to emit for CO is well under the PSD trigger of 100 tons per year

The potential to emit CO from this process will not exceed the original estimate of 74.5 tons per year. The highest rolling average over the past 5 years is 45 tons. The attached graph indicates that as production increases the CO emission factor tends to decrease. Significant increases in production are limited by the physical capability of the equipment. In the event that significant production increases are desired, additional equipment would need to be installed which would trigger a permitting action.

A detailed discussion of the changes made to the previous PTC is provided below for each permit condition in the previous permit. Previous conditions are show in *italics*.

## *1. EMISSION LIMITS*

### *1.1 Carbon Monoxide*

*Carbon monoxide emissions from the oxygen delignification stack shall not exceed an average of seventeen pounds per hour (17.0 lb/hr) based on a twenty-four hour averaging period, or seventy-four and one-half tons per year (74.5 ton/yr).*

**CO emissions from this source are uncontrolled and monitoring data demonstrates that these limits conservatively reflect the potential to emit from this source. Therefore limits are not required and have been deleted. CO is produced in the system when oxygen reacts with the lignin to remove it from the pulp. A measurement of the effectiveness of this process is the Kappa No. The attached graph demonstrates that as production rates increase, the CO emission factor decreases.**

## *2. OPERATING REQUIREMENTS*

### *2.1 Carbon Monoxide Continuous Emission Monitoring (CEM)*

*Installation specifications and test procedures for the CEM shall comply with 40 CFR 60 Appendix B Performance Specification 4 requirements. CEM quality assurance procedures shall comply with 40 CFR 60 Appendix F. The CEM shall also be maintained and operated according to the Operations and Maintenance Manual developed as required by section 2.2 of this permit.*

**Over fifteen years of monitoring data has demonstrated that the uncontrolled potential to emit from this source do not trigger PSD requirements. Therefore this monitoring requirement has been deleted.**

### *2.2 Operations and Maintenance Manual*

*Within sixty (60) days of issuance of this permit, the permittee shall have developed an Operations and Maintenance Manual (Manual) for the Carbon Monoxide CEM which describes the procedures that will be followed to comply with General Provision B and Sections 1.1 and 3.1 of this permit. This Manual shall remain on-site at all times and copies shall be made available to Department representatives upon request.*

**This manual is not required since the monitoring requirement has been deleted.**

### *2.3 Production Rate*

*The production rate limitation in General Provision F of this permit does not apply –*

**Condition is not relevant and has been deleted.**

### 3. MONITORING REQUIREMENTS

#### 3.1 Carbon Monoxide

*The permittee shall install, calibrate, maintain and operate a monitor to continuously measure carbon monoxide emissions from the oxygen delignification stack. Continuous emission monitoring shall meet 40 CFR 60.13 (b), (d) (I), (e) (Z), (f), (g), (h) and (i) requirements.*

**Over fifteen years of monitoring data has demonstrated that the uncontrolled potential to emit from this source do not trigger PSD requirements. Therefore this monitoring requirement has been deleted.**

#### 3.2 Performance Testing

*Within sixty (60) days after achieving the maximum production rate at which the reactor will operate, but no later than one hundred eighty (180) days after initial start-up of the above source, a performance test shall be conducted to demonstrate compliance with Section 1.1 of this permit.*

**Monitoring not required, condition deleted**

### REPORTING REQUIREMENTS .

*4.1 Performance Test Protocol The permittee shall submit a performance test protocol within thirty' (30) days of the day of the test, required in Section 3.2 of this permit, for Department approval.*

#### 4.2 Performance Test Report

*Within thirty (30) days after conducting the performance test as required in Section 3.2 of this permit, the permittee shall submit a written report to the Department detailing the results of the performance test.*

#### 4.3 Exceedances

*The permittee shall submit a written report to the Department within five (5) days of finding an exceedance of the requirements listed in Section 1 and 2 of this permit. The report shall contain the date, duration, and description of the exceedance.*

#### 4 . 4 CEM Recording

*4.4.1 The permittee shall submit, within thirty (30) days of the end of each calendar quarter, CEM data reports on average hourly carbon monoxide emissions based on daily hourly average emissions, including daily high values, in pounds per hour.*

*4.4.2 The .permittee shall submit, within thirty (30) days of the end of each calendar year, a CEM data report for carbon monoxide emissions. Total year to date emissions shall be submitted within the report.*

**Monitoring not required, condition deleted**

#### 4.5 certification of Documents

*All documents, including, but not limited to, records, monitoring data, supporting information, testing reports 0.r compliance certifications submitted to the Department shall contain a certification by a responsible official according to IDAPA 16.01.01.123.*

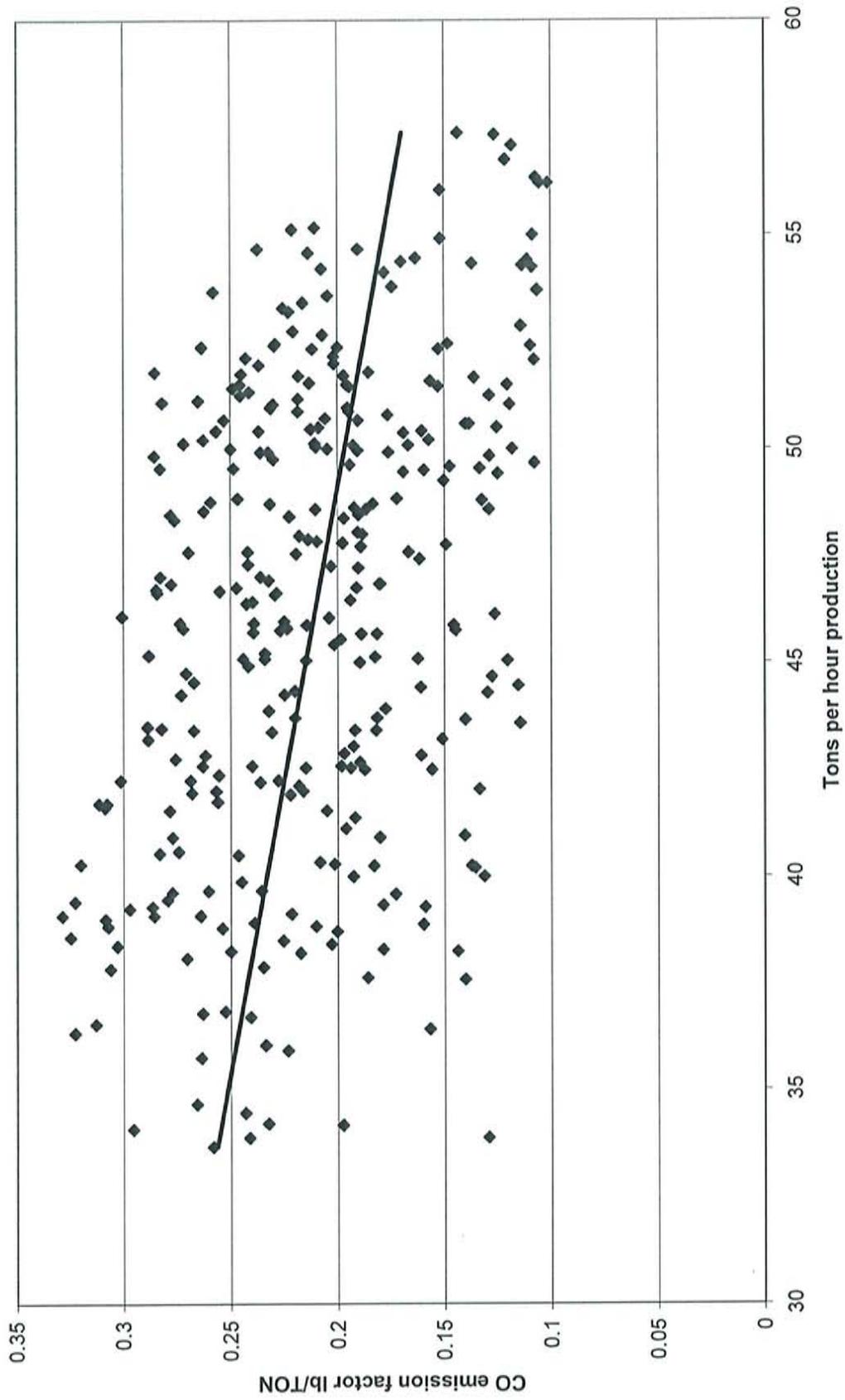
*The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.*

**Monitoring not required, condition deleted**

O2 delig system CO emissions, rolling 12 month average.

74.5 tons per year limit	monthly lbs	12 month rolling tons	% of limit
Jan-02	5346		
Feb-02	4238		
Mar-02	6323		
Apr-02	5508		
May-02	3939		
Jun-02	5627		
Jul-02	6652		
Aug-02	5472		
Sep-02	4577		
Oct-02	5932		
Nov-02	4744		
Dec-02	5309	32	43%
Jan-03	5230	32	43%
Feb-03	4108	32	43%
Mar-03	5265	31	42%
Apr-03	4366	31	41%
May-03	3702	30	41%
Jun-03	4619	30	40%
Jul-03	5404	29	39%
Aug-03	7326	30	41%
Sep-03	7401	32	43%
Oct-03	8705	33	44%
Nov-03	6888	34	46%
Dec-03	7290	35	47%
Jan-04	7249	36	49%
Feb-04	6565	37	50%
Mar-04	5416	37	50%
Apr-04	6743	39	52%
May-04	5402	40	53%
Jun-04	3616	39	52%
Jul-04	6195	39	53%
Aug-04	7466	39	53%
Sep-04	7781	40	53%
Oct-04	8068	39	53%
Nov-04	6784	39	53%
Dec-04	7135	39	53%
Jan-05	6922	39	52%
Feb-05	5168	38	51%
Mar-05	3523	37	50%
Apr-05	5196	37	49%
May-05	4992	36	49%
Jun-05	5781	38	50%
Jul-05	4864	37	49%
Aug-05	6334	36	49%
Sep-05	6599	36	48%
Oct-05	7420	35	47%
Nov-05	8346	36	49%
Dec-05	7170	36	49%
Jan-06	7899	37	49%
Feb-06	6736	37	50%
Mar-06	7919	40	53%
Apr-06	5810	40	54%
May-06	5057	40	54%
Jun-06	7228	41	55%
Jul-06	6892	42	56%
Aug-06	8645	43	58%
Sep-06	9159	44	59%
Oct-06	9393	45	61%
Nov-06	6835	44	60%
Dec-06	6638	44	59%

O2 Delig CO emission factor vs production rate





**DEQ AIR QUALITY PROGRAM**  
 1410 N. Hilton, Boise, ID 83706  
 For assistance, call the  
**Air Permit Hotline – 1-877-5PERMIT**

# PERMIT TO CONSTRUCT APPLICATION

Revision 2  
 02/13/07

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Pottlatch Forest Products Corporation		
2. Facility Name	Pulp and Paperboard	3. Facility ID No.	069-00001
4. Brief Project Description - One sentence or less	Modify 1996 Oxygen Delignification system PTC		
PERMIT APPLICATION TYPE			
5. <input type="checkbox"/> New Facility <input type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Unpermitted Existing Source <input checked="" type="checkbox"/> Modify Existing Source: Permit No.: <u>069-00001</u> Date Issued: <u>09/16/96</u> <input type="checkbox"/> Required by Enforcement Action: Case No.: _____			
6. <input type="checkbox"/> Minor PTC <input type="checkbox"/> Major PTC			
FORMS INCLUDED			
Included	N/A	Forms	DEQ Verify
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form GI – Facility Information	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form EU0 – Emissions Units General	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form EU5 – Boiler Information Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form BCE - Baghouses Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form SCE - Scrubbers Control Equipment	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PP – Plot Plan	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Form FRA – Federal Regulation Applicability	<input type="checkbox"/>

DEQ USE ONLY	
Date Received	
Project Number	
Payment / Fees Included? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Check Number	



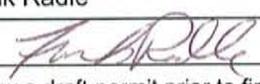
DEQ AIR QUALITY PROGRAM  
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# PERMIT TO CONSTRUCT APPLICATION

Revision 2  
 02/13/07

Please see instructions on page 2 before filling out the form.

**All information is required. If information is missing, the application will not be processed.**

IDENTIFICATION	
1. Company Name	Potlatch Forest Products Corporation
2. Facility Name (if different than #1)	Potlatch Forest Products Corporation
3. Facility I.D. No.	069-00001 - project descrip - modify 1996 O2 delignification system permit
4. Brief Project Description:	
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	<input type="checkbox"/> Federal government <input type="checkbox"/> County government <input type="checkbox"/> State government <input type="checkbox"/> City government
6. Primary Facility Permit Contact Person/Title	Sue Somers
7. Telephone Number and Email Address	208-799-4101 Sue.somers@potlatchcorp.com
8. Alternate Facility Contact Person/Title	Steve Waldher
9. Telephone Number and Email Address	208-799-8861
10. Address to which permit should be sent	PO box 1126,
11. City/State/Zip	Lewiston ID 83501
12. Equipment Location Address (if different than #9)	803 Mill Road
13. City/State/Zip	Lewiston ID 83501
14. Is the Equipment Portable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15. SIC Code(s) and NAISC Code	Primary SIC: 2631    Secondary SIC (if any):    NAICS:
16. Brief Business Description and Principal Product	Pulp and Paperboard Manufacturing
17. Identify any adjacent or contiguous facility that this company owns and/or operates	Consumer products division, Clearwater Wood Products
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	<input type="checkbox"/> New Facility <input type="checkbox"/> New Source at Existing Facility <input type="checkbox"/> Modify Existing Source: Permit No.: _____ Date Issued: _____ <input type="checkbox"/> Unpermitted Existing Source: <input type="checkbox"/> Required by Enforcement Action: Case No.: _____
CERTIFICATION	
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	Frank Radle
20. RESPONSIBLE OFFICIAL SIGNATURE	 Date: 4-6-07
21. <input checked="" type="checkbox"/> Check here to indicate you would like to review a draft permit prior to final issuance.	



DEQ AIR QUALITY PROGRAM  
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PERMIT TO CONSTRUCT APPLICATION

Revision 2  
 02/14/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION						
Company Name: Potlatch Forest Products Corporation		Facility Name: Idaho Pulp and Paperboard		Facility ID No: 069-00001		
Brief Project Description:		Modify 1996 Oxygen Delignification system PTC				
EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION						
1. Emissions Unit (EU) Name:	O2 REACTOR					
2. EU ID Number:	766					
3. EU Type:	<input type="checkbox"/> New Source <input type="checkbox"/> Unpermitted Existing Source <input checked="" type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:		Date Issued:			
4. Manufacturer:	KAMYR					
5. Model:	CUSTOM					
6. Maximum Capacity:	ESTIMATE 1350 AIR DRY TONS BLEACHED PULP PER DAY					
7. Date of Construction:	1992					
8. Date of Modification (if any)	NONE					
9. Is this a Controlled Emission Unit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes    If Yes, Complete the following section. If No, go to line 18.					
EMISSIONS CONTROL EQUIPMENT						
10. Control Equipment Name and ID:	none					
11. Date of Installation:	none	12. Date of Modification (if any):	none			
13. Manufacturer and Model Number:	none					
14. ID(s) of Emission Unit Controlled:	none					
15. Is operating schedule different than emission units(s) involved?:	<input type="checkbox"/> Yes <input type="checkbox"/> No					
16. Does the manufacturer guarantee the control efficiency of the control equipment?:	<input type="checkbox"/> Yes <input type="checkbox"/> No    (If yes, attach and label manufacturer guarantee)					
	Pollutant Controlled					
	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Control Efficiency	0	0	0	0	0	0
17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.    na						
EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)						
18. Actual Operation	8568 HOURS PER YEAR (ONE WEEK DOWN)					
19. Maximum Operation	8760 HOURS PER YEAR					
REQUESTED LIMITS						
20. Are you requesting any permit limits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    (If Yes, check all that apply below)					
<input type="checkbox"/> Operation Hour Limit(s):	NA					
<input type="checkbox"/> Production Limit(s):	NA					
<input type="checkbox"/> Material Usage Limit(s):	NA					
<input type="checkbox"/> Limits Based on Stack Testing	Please attach all relevant stack testing summary reports					
<input type="checkbox"/> Other:	NA					
21. Rationale for Requesting the Limit(s):	NA					



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 Air Permit Hotline – 1-877-5PERMIT

# PERMIT TO CONSTRUCT APPLICATION

Revision 2  
 02/14/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: Potlatch Forest Products Corporation	Facility Name: Idaho Pulp and Paperboard	Facility ID No: 069-00001
Brief Project Description: Modify 1996 Oxygen Delignification system PTC		
APPLICABILITY DETERMINATION		
1. Will this project be subject to 1990 CAA Section 112(g)? (Case-by-Case MACT)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>* If YES then applicant must submit an application for a case-by-case MACT determination [IAC 567 22-1(3)"b" (8)]</small>
2. Will this project be subject to a New Source Performance Standard? (40 CFR part 60)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please identify sub-part: _____</small>
3. Will this project be subject to a MACT (Maximum Achievable Control Technology) regulation? (40 CFR part 63)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please identify sub-part: _____</small>
THIS ONLY APPLIES IF THE PROJECT EMITS A HAZARDOUS AIR POLLUTANT		
4. Will this project be subject to a NESHAP (National Emission Standards for Hazardous Air Pollutants) regulation? (40 CFR part 61)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please identify sub-part: _____</small>
5. Will this project be subject to PSD (Prevention of Significant Deterioration)? (40 CFR section 52.21)	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES
6. Was netting done for this project to avoid PSD?	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES* <small>*If YES please attach netting calculations</small>
<b>IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT</b>		



**Air Quality  
PERMIT TO CONSTRUCT**  
State of Idaho  
Department of Environmental Quality

**PERMIT No.:** P-050208  
**FACILITY ID No.:** 069-00001  
**AQCR:** 062                      **CLASS:** A  
**SIC:** 2812                      **ZONE:** 11  
**UTM COORDINATE (km):** 501.9, 5141.3

**1. PERMITTEE**  
Potlatch Forest Products Corporation, Pulp and Paperboard Division

**2. PROJECT**  
Oxegen Delignification system

<b>3. MAILING ADDRESS</b> P.O. Box 1126	<b>CITY</b> Lewiston	<b>STATE ID</b>	<b>ZIP</b> 83501-1126
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<b>4. FACILITY CONTACT</b> Sue Somers	<b>TITLE</b> Environmental Engineering Manger	<b>TELEPHONE</b> (208) 799-4104
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<b>5. RESPONSIBLE OFFICIAL</b> Frank Radle	<b>TITLE</b> Plant Manager	<b>TELEPHONE</b> (208) 799-1561
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<b>6. EXACT PLANT LOCATION</b> 803 Mill Road, Lewiston, Idaho	<b>COUNTY</b> Nez Perce
--	----------------------------

**7. GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**  
Pulp and paperboard manufacturing

**8. GENERAL CONDITIONS**

This permit is issued according to IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require DEQ approval pursuant to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200, et seq.

\_\_\_\_\_  
TONI HARDESTY, DIRECTOR  
DEPARTMENT OF ENVIRONMENTAL QUALITY

**DATE ISSUED:** Proposed

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## Acronyms, Units, and Chemical Nomenclature

AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gr	grain (1 lb = 7,000 grains)
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
MMBtu/hr	million British thermal units per hour
MMscf	million standard cubic feet
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
psig	pounds per square inch
PTC	permit to construct
SIC	Standard Industrial Classification
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

**1. PERMIT TO CONSTRUCT SCOPE**

***Purpose***

The purpose of this permit to construct (PTC) is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho for Oxygen Delignification System.

***Regulated Sources***

1.2 Table 1.1 lists all sources of regulated emissions in this PTC.

**Table 1.1 SUMMARY OF REGULATED SOURCES**

<b>Permit Section</b>	<b>Source Description</b>	<b>Emissions Control(s)</b>
2	Oxygen Delignification System.	none

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

**2. Oxygen Delignification System.**

**2.1 Process Description**

Oxygen delignification is a process that applies oxygen to brownstock. It is used to reduce the lignin content of the pulp.

**2.2 Emissions Control Description**

**Table 1.2 EMISSIONS UNIT DESCRIPTIONS**

<b>Emissions Unit(s) / Process(es)</b>	<b>Emissions Control Device</b>
Oxygen Delignification system	none

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

**PERMIT TO CONSTRUCT GENERAL PROVISIONS**

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.
2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
3. The permittee shall allow the Director, and/or the authorized representative(s), upon the presentation of credentials:
  - To enter, at reasonable times, upon the premises where an emissions source is located, or in which any records are required to be kept under the terms and conditions of this permit.
  - At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack compliance testing in conformance with IDAPA 58.01.01.157 when deemed appropriate by the Director.
4. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.
5. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

**AIR QUALITY PERMIT TO CONSTRUCT NUMBER: P-050208**

<b>Permittee:</b>	Potlatch Forest Products	<b>Facility ID No.:</b> 069-00001	<b>Date Issued:</b>	Proposed
<b>Location:</b>	Lewiston			

7. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
  
8. In accordance with IDAPA 58.01.01.123, all documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

O2 delignification system  
Regulatory review  
04/06/2007

This PTC regulates emissions from the Oxygen delignification system. Oxygen delignification is a process that applies oxygen to brownstock. It is used to reduce the lignin content of the pulp.

The original permit contain short term and long term emission limits for VOC and CO. Compliance was to be determined through the use of CERMs subject to the requirements of 40 CFR Appendix F. The 1996 permit removed the VOC limits and monitoring requirements.

The oxygen delignification system was among the earliest of such systems installed on pulp mills in the U.S. The purpose of the installation was to reduce the formation of chlorinated organics during the bleaching process. In 1990, little data was available on the CO emissions associated with oxygen delignification. The CEMs systems for O<sub>2</sub>, CO and VOC were originally installed to monitor the LEL (lower explosive limit) of the reactor gases for safety purposes.

CO delignification is one step in the process of producing bleached pulp. There are three basic steps in the process which are designed to remove lignin but maintain the strength of the wood fiber. The first step is the digesters which break down the chip and removes some of the lignin. This is the most rigorous stage of the process. After the pulp, known as "brownstock" at this point, is washed, it enters the O<sub>2</sub> delignification system. The kappa no. at this point is about 30. Kappa no. is a measure of pulp brightness. In the O<sub>2</sub> system, oxygen is used to further remove lignin from the pulp. This stage is less harsh on the fiber than the digester stage, however fiber strength can still be compromised in the O<sub>2</sub> reactor. For this reason the target kappa no. out of the reactor is about 15. If too much delignification takes place in the O<sub>2</sub> stage, the resulting pulp will be poor quality. After O<sub>2</sub> delignification the pulp is washed and enters the "bleach plant" where Chlorine dioxide and other chemicals that are gentle on the fibers are used to obtain the final brightness.

Now that data has been collected on the CO emissions from this system for over 15 years, adequate information exists to modify the permit and remove the limits and monitoring requirements. The potential to emit for CO is well under the PSD trigger of 100 tons per year

The potential to emit CO from this process will not exceed the original estimate of 74.5 tons per year. The highest rolling average over the past 5 years is 45 tons. The attached graph indicates that as production increases the CO emission factor tends to decrease. Significant increases in production are limited by the physical capability of the equipment. In the event that significant production increases are desired, additional equipment would need to be installed which would trigger a permitting action.

A detailed discussion of the changes made to the previous PTC is provided below for each permit condition in the previous permit. Previous conditions are show in *italics*.

## *1. EMISSION LIMITS*

### *1.1 Carbon Monoxide*

*Carbon monoxide emissions from the oxygen delignification stack shall not exceed an average of seventeen pounds per hour (17.0 lb/hr) based on a twenty-four hour averaging period, or seventy-four and one-half tons per year (74.5 ton/yr).*

**CO emissions from this source are uncontrolled and monitoring data demonstrates that these limits conservatively reflect the potential to emit from this source. Therefore limits are not required and have been deleted. CO is produced in the system when oxygen reacts with the lignin to remove it from the pulp. A measurement of the effectiveness of this process is the Kappa No. The attached graph demonstrates that as production rates increase, the CO emission factor decreases.**

## *2. OPERATING REQUIREMENTS*

### *2.1 Carbon Monoxide Continuous Emission Monitoring (CEM)*

*Installation specifications and test procedures for the CEM shall comply with 40 CFR 60 Appendix B Performance Specification 4 requirements. CEM quality assurance procedures shall comply with 40 CFR 60 Appendix F. The CEM shall also be maintained and operated according to the Operations and Maintenance Manual developed as required by section 2.2 of this permit.*

**Over fifteen years of monitoring data has demonstrated that the uncontrolled potential to emit from this source do not trigger PSD requirements. Therefore this monitoring requirement has been deleted.**

### *2.2 Operations and Maintenance Manual*

*Within sixty (60) days of issuance of this permit, the permittee shall have developed an Operations and Maintenance Manual (Manual) for the Carbon Monoxide CEM which describes the procedures that will be followed to comply with General Provision B and Sections 1.1 and 3.1 of this permit. This Manual shall remain on-site at all times and copies shall be made available to Department representatives upon request.*

**This manual is not required since the monitoring requirement has been deleted.**

### *2.3 Production Rate*

*The production rate limitation in General Provision F of this permit does not apply –*

**Condition is not relevant and has been deleted.**

### 3. MONITORING REQUIREMENTS

#### 3.1 Carbon Monoxide

The permittee shall install, calibrate, maintain and operate a monitor to continuously measure carbon monoxide emissions from the oxygen delignification stack. Continuous emission monitoring shall meet 40 CFR 60.13 (b), (d) (1), (e) (Z), (f), (g), (h) and (i) requirements.

**Over fifteen years of monitoring data has demonstrated that the uncontrolled potential to emit from this source do not trigger PSD requirements. Therefore this monitoring requirement has been deleted.**

#### 3.2 Performance Testing

Within sixty (60) days after achieving the maximum production rate at which the reactor will operate, but no later than one hundred eighty (180) days after initial start-up of the above source, a performance test shall be conducted to demonstrate compliance with Section 1.1 of this permit.

**Monitoring not required, condition deleted**

### REPORTING REQUIREMENTS .

4.1 Performance Test Protocol The permittee shall submit a performance test protocol within thirty (30) days of the day of the test, required in Section 3.2 of this permit, for Department approval.

#### 4.2 Performance Test Report

Within thirty (30) days after conducting the performance test as required in Section 3.2 of this permit, the permittee shall submit a written report to the Department detailing the results of the performance test.

#### 4.3 Exceedances

The permittee shall submit a written report to the Department within five (5) days of finding an exceedance of the requirements listed in Section 1 and 2 of this permit. The report shall contain the date, duration, and description of the exceedance.

#### 4.4 CEM Recording

4.4.1 The permittee shall submit, within thirty (30) days of the end of each calendar quarter, CEM data reports on average hourly carbon monoxide emissions based on daily hourly average emissions, including daily high values, in pounds per hour.

4.4.2 The permittee shall submit, within thirty (30) days of the end of each calendar year, a CEM data report for carbon monoxide emissions. Total year to date emissions shall be submitted within the report.

**Monitoring not required, condition deleted**

#### 4.5 certification of Documents

All documents, including, but not limited to, records, monitoring data, supporting information, testing reports or compliance certifications submitted to the Department shall contain a certification by a responsible official according to IDAPA 16.01.01.123.

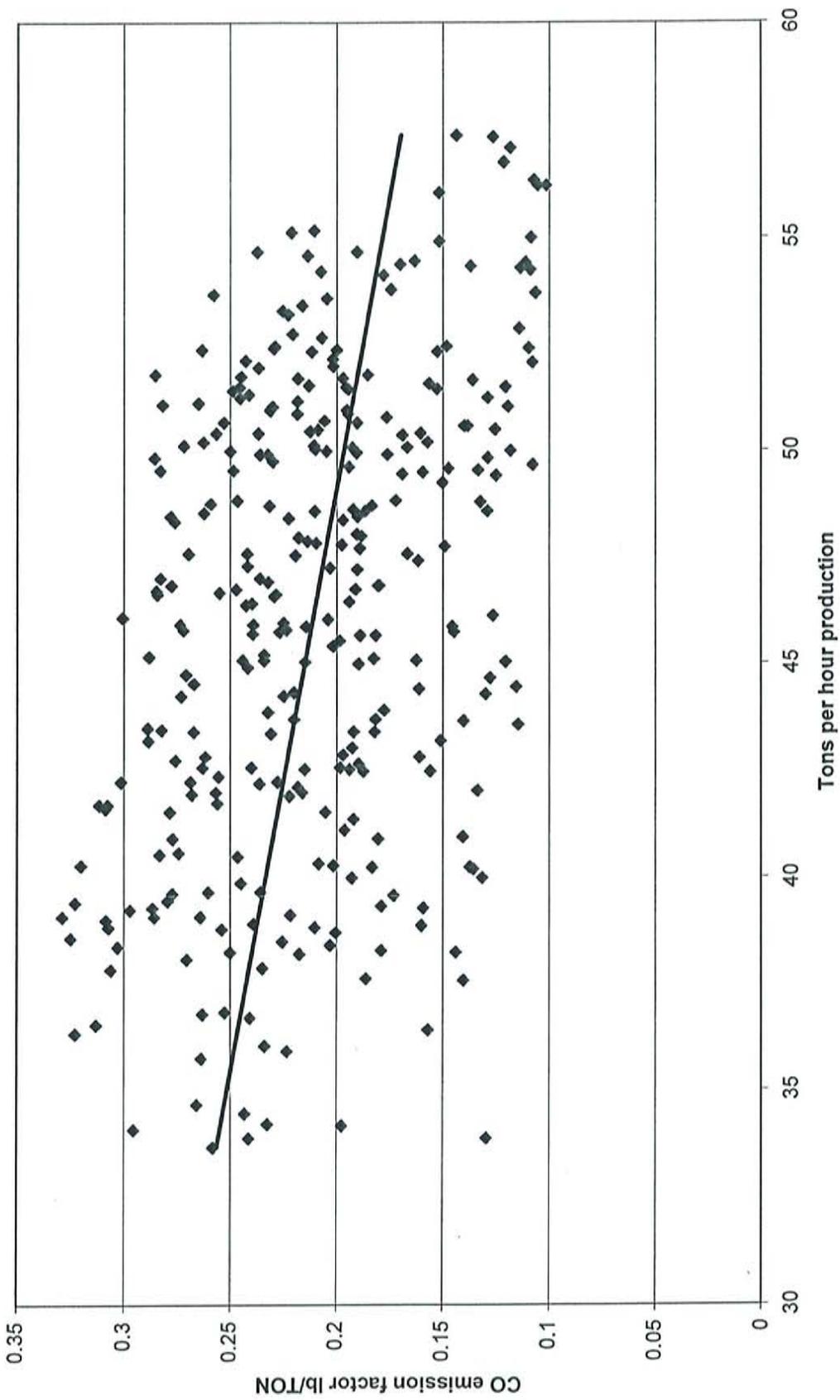
*The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.*

**Monitoring not required, condition deleted**

O2 delig system CO emissions, rolling 12 month average.

74.5	tons per year limit	monthly lbs	12 month rolling tons	% of limit
		Jan-02	5346	
		Feb-02	4238	
		Mar-02	6323	
		Apr-02	5508	
		May-02	3939	
		Jun-02	5627	
		Jul-02	6652	
		Aug-02	5472	
		Sep-02	4577	
		Oct-02	5932	
		Nov-02	4744	
		Dec-02	5309	32 43%
		Jan-03	5230	32 43%
		Feb-03	4108	32 43%
		Mar-03	5265	31 42%
		Apr-03	4366	31 41%
		May-03	3702	30 41%
		Jun-03	4619	30 40%
		Jul-03	5404	29 39%
		Aug-03	7326	30 41%
		Sep-03	7401	32 43%
		Oct-03	8705	33 44%
		Nov-03	6888	34 46%
		Dec-03	7290	35 47%
		Jan-04	7249	36 49%
		Feb-04	6565	37 50%
		Mar-04	5416	37 50%
		Apr-04	6743	39 52%
		May-04	5402	40 53%
		Jun-04	3616	39 52%
		Jul-04	6195	39 53%
		Aug-04	7466	39 53%
		Sep-04	7781	40 53%
		Oct-04	8068	39 53%
		Nov-04	6784	39 53%
		Dec-04	7135	39 53%
		Jan-05	6922	39 52%
		Feb-05	5168	38 51%
		Mar-05	3523	37 50%
		Apr-05	5196	37 49%
		May-05	4992	36 49%
		Jun-05	5781	38 50%
		Jul-05	4864	37 49%
		Aug-05	6334	36 49%
		Sep-05	6599	36 48%
		Oct-05	7420	35 47%
		Nov-05	8346	36 49%
		Dec-05	7170	36 49%
		Jan-06	7899	37 49%
		Feb-06	6736	37 50%
		Mar-06	7919	40 53%
		Apr-06	5810	40 54%
		May-06	5057	40 54%
		Jun-06	7228	41 55%
		Jul-06	6892	42 56%
		Aug-06	8645	43 58%
		Sep-06	9159	44 59%
		Oct-06	9393	45 61%
		Nov-06	6835	44 60%
		Dec-06	6638	44 59%

O2 Delig CO emission factor vs production rate



### FEE RECEIVED FROM FACILITY

Date Stamp (date received in PO)	
<p>RECEIVED</p> <p>APR 11 2007</p> <p>DEPARTMENT OF ENVIRONMENTAL QUALITY STATE OF MONTANA</p>	
Facility Name	<i>Polltech Corp. - Lewiston</i>
Facility Location	<i>Lewiston</i>
Fee Type (PTC Application, PTC Processing, T2 Processing)	<i>PTC</i>
Check Number	<i>816874</i>
Check Date	<i>2/20/07</i>
Check Amount	<i>\$1,000.00</i>